

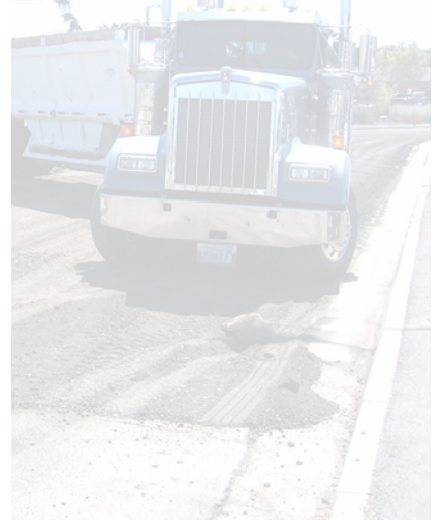
# MONTANA DEPARTMENT OF TRANSPORTATION

## HIGHWAY PROJECT COST ESTIMATING AND MANAGEMENT (HPCE)



CONTRACT#: 308059, RESEARCH PROJECT#: 8189

DATE: AUGUST 9, 2007  
MONTHLY PROGRESS REPORT # 5  
PERIOD: JULY 1, 2007 – JULY 31, 2007



PREPARED BY:

 SIERRA TRANSPORTATION ENGINEERS, INC.  
1005 TERMINAL WAY, SUITE 125  
RENO, NV 89502

PREPARED FOR:

Montana Department of Transportation  
2701 Prospect Avenue  
P.O. Box 201001  
Helena, MT 59620-1001

## TABLE OF CONTENTS

	PAGE
Introduction.....	1
Task 1 – MDT’s Structure, Operations, and Current Process.....	1
Task 2 – Critical Review of NCHRP 8-49 Literature Review.....	2
Task 3 – Recommendations.....	2
Task 4 – Consultants Visits and Schedule.....	2
Task 5 – Develop Detailed Strategic Procedure .....	2
Task 6 – Implementation Plan .....	2
Project Schedule and Financial Summaries .....	3

## LIST OF FIGURES

	PAGE
Figure 1. Expenditures Versus Planned Budget for Each Task.....	4
Figure 2. Cumulative Expenditures Versus Budget.....	5

## INTRODUCTION

Sierra Transportation Engineers, Inc. (STE) is pleased to provide its fifth monthly progress report for Montana Department of Transportation (MDT) contract number 308059, titled "Highway Project Cost Estimating and Management (HPCE)." This monthly progress report covers the period July 1, 2007 to July 31, 2007.

The overall objective of this project is to develop a comprehensive document to determine the best practice of efficient highway cost estimating for Montana. Upon completion of this research, recommendations are to be made for improvements to the current cost estimation process.

The specific tasks identified in the project work plan are:

- Task 1 - MDT's Structure, Operations, and Current Process
- Task 2 - Critical Review of NCHRP 8-49 Literature Review
- Task 3 - Recommendations
- Task 4 - Consultant Visits and Schedule
- Task 5 - Develop Detailed Strategic Procedure
- Task 6 - Implementation Plan

The following paragraphs describe the work accomplished during this reporting period under each task.

## TASK 1 – MDT'S STRUCTURE, OPERATIONS, AND CURRENT PROCESS

During this reporting period STE continued its efforts on understanding MDT's current structure, operations and procedures for cost estimation. A draft data request template called MDT HPCE data request template was created using MS Excel spreadsheets. STE provided an electronic copy of the template to MDT for review and comment on April 13, 2007. STE worked closely with the MDT Project Manager and Project Panel to customize the data request template to follow MDT practices. On July 3<sup>rd</sup>, 2007 STE finalized and submitted the data request template to MDT. The data request template will be used to provide project cost data to STE on at least 10 (and preferably 20) MDT projects. STE has requested data on projects of different types, categories, and from different districts. STE also asked for projects that were under, over, and close to the original base cost.

STE also reviewed the MDT response to its pre-trip questions and survey for different project stages to MDT. The different stages of the project include: planning, programming, advanced planning/preliminary design, final design, ad/bid/award, and construction.

### *Worked planned for next month*

STE will continue reviewing the current MDT structure, operations, and processes. STE will also schedule a visit to MDT to gather additional information about MDT current cost estimating practices by interviewing MDT personnel and private entities involved the process. STE will work closely with the project panel to identify the interviewees and schedule the meetings.

## **TASK 2 – CRITICAL REVIEW OF NCHRP 8-49 LITERATURE REVIEW**

During this reporting period STE continued its review of NCHRP Report 574, "Guidance for Cost Estimation and Management for Highway Projects During Planning, programming, and Preconstruction." STE is utilizing the NCHRP 8-49 findings in developing questionnaires for its upcoming interviews with MDT personnel. STE has assembled its literature review findings in a draft document that will be included in its interim report to MDT.

### ***Worked planned for next month***

STE will continue reviewing the NCHRP 8-49 report and its literature review.

## **TASK 3 – RECOMMENDATIONS**

Information gathered from pre-trip questions and surveys along with the ongoing literature review is being used to develop the framework for project recommendations. During this reporting period, STE initiated the evaluation of Monte Carlo simulation software namely Crystal Ball and also @RISK for possible use as risk analysis tools on the upcoming data from MDT.

### ***Worked planned for next month***

STE will continue the evaluation of Monte Carlo simulation software for possible use as risk analysis tools on MDT data.

## **TASK 4 – CONSULTANTS VISITS AND SCHEDULE**

During this reporting period STE worked with MDT project manager to identify interviewees for its upcoming visit.

### ***Worked planned for next month***

Consultant visits will be scheduled for August-September.

## **TASK 5 – DEVELOP DETAILED STRATEGIC PROCEDURE**

No work was scheduled nor conducted for this task during this reporting period. However, the scope of activities under this task was thoroughly discussed with the MDT project panel during the kick-off meeting.

### ***Worked planned for next month***

No activity planned.

## **TASK 6 – IMPLEMENTATION PLAN**

No work was scheduled nor conducted for this task during this reporting period. However, the scope of activities under this task was thoroughly discussed with the MDT project panel during the kick-off meeting.

### ***Worked planned for next month***

No activity planned.

## PROJECT SCHEDULE AND FINANCIAL SUMMARIES

Figure 1 shows the project expenditures versus planned budget for each task. Figure 2 represents the cumulative project expenditures versus budget for the entire project to date.

All project activities are per schedule and the project is within planned budget. STE does not foresee any problems to report.

Figure 1. Expenditures Versus Planned Budget for Each Task

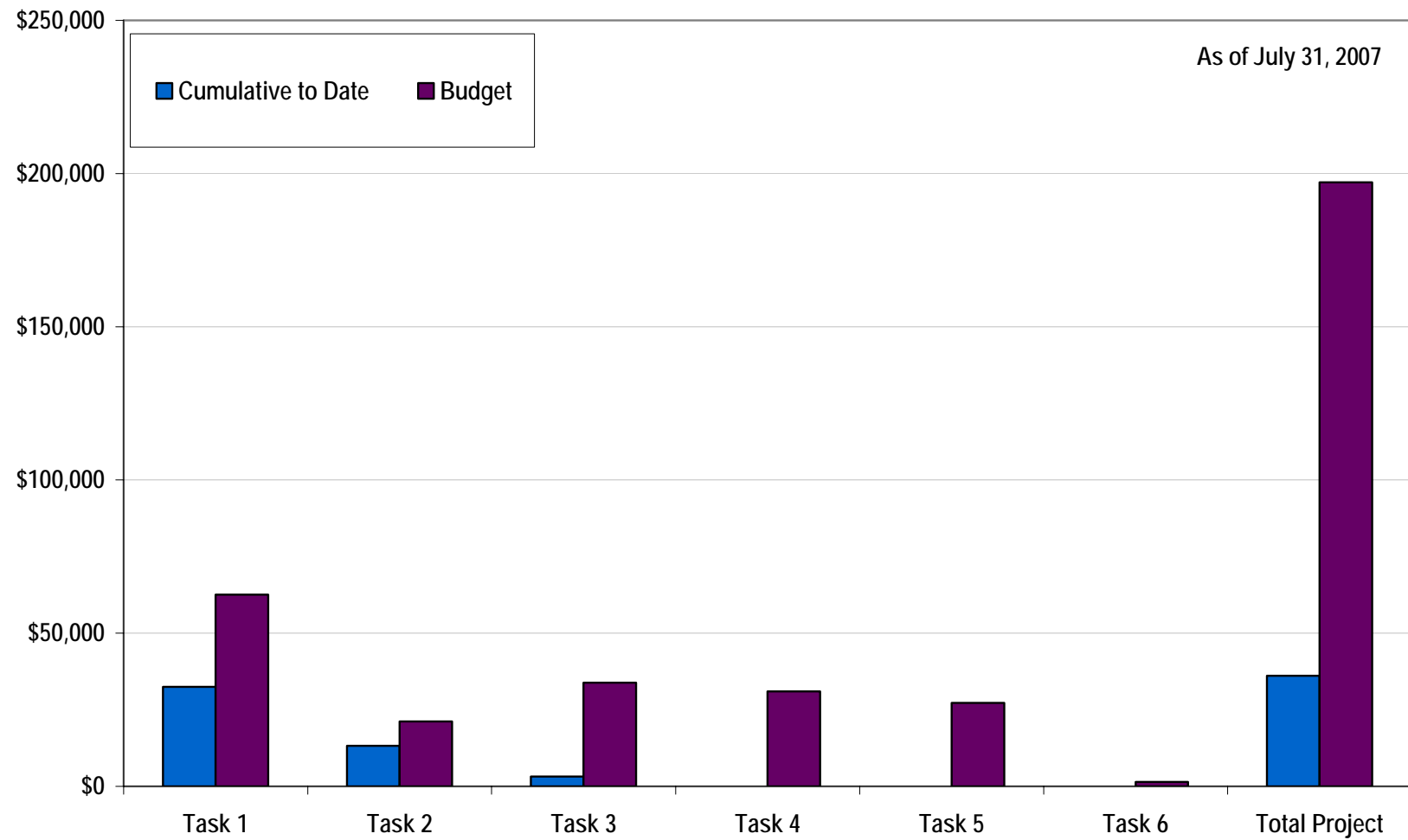


Figure 2. Cumulative Expenditures Versus Budget

